The RARS
EXCITER

RALEIGH AMATEUR RADIO SOCIETY
RARS
WORLDWIDE FRIENDSHIP

No. 335, March 1998 RARS Webpage:http://rtpnet.org/~rars

RARS Needs YOU!!

Believe it or not, RARSfest is only a month away, April 5th. There are plenty of positions still open. We will start setting up Friday afternoon for a few hours and then things will get underway Saturday starting at noon when we begin letting folks set up their tables.

Here is a list of the committee chairs that can use your help. Please make their day by contacting one today!

Talk-In	**David**	**N4YTO**	**677-8320**
RARS Table	**Max**	**KO4TV**	**787-0758**
Security	**Mike**	**KE4OQO**	**469-2171**
Setup	**Bernard**	**KC4UPX**	**467-8719**
Social	**Fontella**	**KE4IZZ**	**662-1626**
Stage	**Gary**	**KN4AQ**	**380-9944**
Ticket Sales	**Thomas**	**KF4JKQ**	**557-7008**
Tear Down	**Dave**	**K4SAN**	**772-6338**

Most of these people will also be at the March Meeting doing recruiting. Just a reminder that we are trying to make working for the Hamfest a bit more attractive by offering an **incentive prize, an ICOM T2A HT**. See Jeff's article in this newsletter for more details! We look forward to seeing everyone at the 'fest on April 5th!

73, Cyndi KD4ACW, RARSfest Chairman '98

Representative David Price Responds

A few months back, RARS member Dennis Mason, KD4GAN wrote our representatives concerning H.R. 1964, the Communications Privacy and Consumer Empowerment Act, and H.R. 2369, the Wireless Privacy Enhancement Act. This legislation as originally drafted would have adversely affected the nature and practice of amateur radio as we know it. Thanks to the efforts of the ARRL and

See Price page 5

March Meeting: Annual Member Awards and RARS Birthday Party

The meeting begins at the usual time of 7:30 PM on Tuesday, March 3rd. Its a time of recognition, remembrance and thanks for jobs well done. It's also a time for fellowship and celebration. Ice Cream will be served. Yall Come!

NEW REPEATERS COMING TO RALEIGH/RTP

By Gary Pearce, KN4AQ

The Raleigh area will be getting a new two-meter repeater and a couple of new 440 machines, courtesy of the Graham Repeater Association. That's right, the guys from little ol' Graham are here in Raleigh, building repeaters!

The new two-meter machine will be on 145.19 MHz. Rec-

See Repeater page 2

Repeater

from page 1

ognize that frequency? Yep, it's the same as the Mt. Mitchell repeater. Mt. Mitchell's awesome coverage has kept that pair empty across a wide arc, but the machine doesn't cover the 200 miles to Raleigh except during major band openings. There's another 145.19 in Jacksonville, about 100 miles south, that has local coverage.

Perhaps even better news, the new 145.19 machine will be located very near the spot 146.64 will be leaving. That means north Raleigh hams will have a local repeater again. Dave Thompson K4GWH tells me the machine will be about 290' above the ground, and almost 400' above average terrain, at a familiar landmark: "near the intersection of Six Forks and Strickland." How many times have we used that phrase to describe the 64 machine? By comparison, 64 was about 375 feet above the ground, and about 500 feet above average terrain. So 145.19's coverage should be just a bit less than .64. Then again, Dave says he'll be using 3 inch, air-core Heliax feedline... That's like mounting the repeater on top of the tower! We had about 3 dB loss in our 7/8ths inch feedline. His near zero loss might be the

The Raleigh Amateur Radio Society, Inc. (RARS), was founded in 1969 and continues to serve and support the Amateur Radio community in the Greater Triangle area.

The Objectives of the club are to promote worldwide friendship through Amateur Radio; to be of public service by providing radio communications in times of disaster, emergency, or civic need; to educate members in radio technique and to assist in obtaining Amateur Radio licenses.

All persons interested in Amateur Radio are eligible to apply for membership to the club. Dues for regular licensed amateurs are $18.00 per year (from July 1 through June 30). Additional immediate family members pay $5.00 each per year. Dues for licensed amateurs older than 59 or younger than 16 are $12.00 per year. Dues for non-licensed Associate members are $9.00 per year. Regular membership dues prorate for new members.

Applications for membership may be obtained from the officers listed below from the newsletter editor, or at any RARS meeting.

President	Gary Pearce, KN4AQ 116 Waterfall Court Cary, NC 27511 (919) 380-7286 Email: kn4aq.gary@mms.net
Vice President	Pat Fix, KE4FCJ 324 Silverberry Court Cary, NC 27513 (919) 677-8320 Email: pfix@pagesz.net
Secretary:	Pending
Treasurer	Mike Murphy, WA4BPJ 7329 Barberry Court Raleigh, NC 27515 (919) 847-4641 wa4bpj@pagesz.net

The EXCITER is published monthly by the Raleigh Amateur Radio Society, and is mailed at no cost to its members. Letters to the Editor, technical articles, items of interest to the ham community and guest editorials are actively solicited.

Articles published in the EXCITER do not necessarily represent the views or carry the endorsement of club officers, Board of Directors, EXCITER editor or the membership. Articles will be printed at the discretion of the editor, and no article will be published unless it is accompanied by the name(s) of the person(s) submitting the article.

All copy for publication in the EXCITER must be in the hands of the editor by the end of the Board of Director's meeting on the third Tuesday of each month. Articles may be hand written, typed, or in electronic form as an ASCII file or on disk, transmitted via telephone modem, or over Internet to any one of the officers or the EXCITER editor.

Amateur Radio-related items for sale by the members can be advertised without charge for one issue, but may be resubmitted as often as desired. These ads must be noncommercial in nature.

Commercial ads will be run in return for the following donations to the club:

	Single Issue	Full Year
Business Card	$ 7.50	$ 75.00
Quarter Page	$ 11.26	$ 112.50
Third Page	$ 15.00	$ 150.00
Half Page	$ 22.50	$ 225.00
Full Page	$ 50.00	N/A

Commercial Ads must be of "camera-ready quality", and cannot be sent by Amateur Radio. Due to the reprographic process used, no color copy can be accepted.

Contributions, inquiries, comments concerning EXCITER content, advertisements, and mailing problems should be directed to your EXCITER editor:

Walter Price, KM4BU
420 Oak Ridge Rd.
Cary, NC 27511
(919) 481-3856
waltreid@aol.com

SPECIAL SERVICE CLUB

Young Ladies' Radio League

SOUTHEASTERN REPEATER ASSOCIATION MEMBER

AMSAT

PRESIDENT'S CORNER

By Gary Pearce, KN4AQ

WHAT IS RARS?

A few months ago, I asked a friend of mine from out of town what people outside the Triangle thought of RARS. His predominant impression was that RARS was a big club that exerted too much influence in ham radio in the state. I wasn't surprised. I've heard it before. We run everything, we hog all the credit, and we're rich.

Interesting impression. It looks different from here on the inside. A decade or two ago, RARS had strong contacts in state government, but we don't now. RARS members were instrumental in forming what is now SARA, but we don't participate in SARA management anymore. The section manager listens when we offer an opinion, but we don't dictate ARRL policy in the state.

What RARS is today is a large, general interest radio club. We have just over 300 members, and a lot of different interests. Our strong points are the hamfest, classes, public service activity, Field Day, the repeaters, club meetings/programs, the Crystals, SIGS, the VE team, Elmering, and this newsletter. You members are active an almost every phase of ham operation.

Although we sometimes complain about lack of participation, RARS members actually have a pretty high level of participation. We do so much, sometimes we wear ourselves out.

We bend over backwards to be inclusive. You don't have to be a member to take advantage of almost everything RARS does (we lost about 100 members when we opened the autopatch on 146.64 to everyone). Anyone can be a member -- you don't have to be "voted in." Our publicity effort has been strong and successful, but headlines read "Ham Radio Operators," not "RARS." And we don't take credit for public service activity at all --it's all just "Amateur Radio."

RARS is a great place to share our hobby. I'm proud of the club, and I think most of you are, too. So what am I leading to here? Two things:

first, encourage a ham friend to join. Second, if you have an activity in mind, consider doing it "through the club." We'll all benefit.

73, Gary KN4AQ

Repeater *from page 2*

equivalent of 100 feet of tower height. By the way, the new 145.19 requires 156.7 Hz PL.

The other new repeaters are: 444.825—same site as 145.19 in north Raleigh, also 156.7 PL. 443.425 in RTP146..2 Hz PL.

Visit the Graham Repeater Assn. web site for more information on the rest of their growing network: http://www.netpath.net/~n4mio/gra.shtml

Nominating Committee

As directed by the RARS Bylaws and the President, a special election will be held at the March meeting to fill the vacant position of RARS Secretary. The committee nominates Jeff Wittich, AC4ZO for the position. Other nominations (if any) will be accepted from the floor.

RARS Crystals

By Lynn Pitegoff, KO4QH

Hi every one! If you missed it, you should have been there! Our last meeting that is. We had a farewell party for Crystal Mary Nisley and her family, Ed and Karen. We're real sorry to have the leave and we wish them lots of luck in New York.

It's time to start planning for the RARSfest Social. Fontella Spratly will head it up this year. This is one of the events that the Crystals do so well. Alan & I talk to a lot of dealers at all the hamfests we go to, and RARSfest social has a great reputation. At the general RARS meeting, Fontella will have a sign-up sheet for the food donations. I'm sure you will all want to make this social a great one!

See you at the Crystals meeting - the 4th Tuesday of each month - Golden Corral on Rt. 70 (across from Best Buys) at 6:30. See 'ya!

73, Lynn KO4QH Lead Crystal

We Need You!

By Michael R Milan, KE4OQO

It's the toughest job you'll ever love. No, it's not the army. It's RARSfest security. The job basically entails ensuring all attendees have a ticket, directing people to the testing session and answering just general questions.

The shifts on Saturday, April 4th, begin at 12 Noon and run in 2 hour shifts until 10 PM. On Sunday, April 5th, shifts will start at 5 AM and run every 2 hours until 5 PM.

I have plenty of openings available and should you not have a 2-meter HT, or if you have some sort of requirement that prevents you from standing, I can accommodate you. Please contact me, Mike - KE4OQO at 919-303-2171 or E-mail me, KE4OQO.Mike@juno.com.

Remember, each 2 hour shift that you work gets you 1 chance in the bucket for the ICOM HT. Whether you assist in security or any other function of the hamfest, just remember, it is for the good of the club. It keeps RARS running all year long. Thank you.

73 DE Michael R. Milan, ke4oqo.mike@juno.com

[It's really not so tough as it is a friendly job. Most of our attendees are happy people—KM4BU—Ed.]

QSL 101
Part II

By Jeff Wittich, AC4ZO

In Part I of this article, you were introduced to the idea of QSL bureaus. Now here are the detailed instructions for using the outgoing Bureau.

Firstly, you must be an ARRL member to take advantage of this facility. Next, it's a matter of working the DX in order to provide a destination for your cards. Then, on to the nitty gritty.

After your cards are filled out, and ready to be sent, you sort them in order of prefix. This greatly simplifies the work at the bureau and improves reliability.

When sorting the cards, the order to use is numbered prefixes first, followed by letter prefixes. If your not sure what order certain countries come in, it's best to consult the DXCC list published by headquarters. Sometimes, a country will have special prefixes not found in the DXCC list. Two examples are Mexico and France. Mexico's prefix is normally XA-XI, but there are a few legitimate stations that sign with a 6D prefix, including one large contest station: 6D2E. In this case, the 6D card gets sorted in with the rest of the Mexico cards. Put it in with the XA-XIs. France's prefix is F, but some stations sign with a TM prefix

See QSL page 5

Price from page 1

citizens like Dennis, changes have been made to remove the objectional provisions from the bills. Replies to Dennis' letters have now been received from all legislators except representative Jesse Helms. The following reply (including typos) was received from representative David Price.

December 23, 1997
Denni A. Mason
517 Killington Drive
Raleigh, NC 27609

Dear Denni:

Thank you for contacting me regarding H.R. 1964, the Communications Privacy and Consumer Empowerment Act, and H.R. 2369, the Wireless Privacy Enhancement Act. I believe amateur radio operators provide a great public service, and I appreciate your bringing your concerns about these bills to my attention.

As I understand it, both H.R. 2369 and H.R. 1964 are intended to protect the privacy of cellular phone users, but the bills as introduced included provisions which would have had the effect of restricting the use of ham radio equipment. These provisions would have prohibited the production of scanners which could access spectrum frequencies allocated to any commercial mobil telecommunications services.

I am pleased to inform you that H.R. 2369 has been amended to accommodate the needs and concerns of hams. During consideration of the bill by the Commerce Subcommittee on Telecommunications, Trade, and Consumer Protection, Chairman Tauzin, the bill's sponsor, amended the bill so that it would affect only scanners that can access frequencies allocated to domestic celluar radio telecommunications services or to personal communications services. I understand the amateur radio operators' national association was actively involved in helping to craft this language and that it resolves hams' earlier concerns about the bill.

Again, I appreciate your contacting me. Please let me know if you have further questions about H.R. 2369 or any bill before the congress.

Sincerely,
(Signed)
DAVID PRICE
Member of Congress

QSL *from page 4*

(TM2C, and others). In this case, the TM card gets put in with the F prefix cards. The idea here is to get the cards in the order that the countries are on the list.

Once the cards are sorted, make sure the back of the card bears the call sign of the station the card is going too, regardless of the call sign worked. Most of the time, this will be the same, but not always. Some DX stations have QSL managers to handle the task of exchanging cards. In this case, you want the card to go to the QSL manager, so the station worked goes in the report part of the card, but the managers call sign goes prominently on the back. Your cards are now ready to be packed and sent.

A padded envelope is a suitable way to send large quantity of cards. Just put your sorted cards in the envelope, and include two other enclosures: You need proof of ARRL membership. Normally this would be a mailing label off your QST or a photocopy of your wallet card. Also include the required fee. This is $4 per pound of cards. If you don't work very much DX, you can send up to 10 cards in an envelope with $1. A green stamp (dollar bill) works fine, if the envelope has that fancy printed pattern on the inside so you can't see through it. Send the cards to ARRL, 225 Main street, Newington, CT 06111 ATTN: QSL bureau. Your cards are now on their way.

If you are a RARS member,

See QSL page 9

RARS ListServer Correction

There was one little detail that I left out of last month's ListServer article: You must be authenticated as a RARS member before admission to the List Server. Here are the complete Procedures:

1. Send an e-mail message to:

majordomo@rtpnet.org

with the following line in the body of the text:

subscribe rars-l

Important: "l" is a lower case L. The subject line will be ignored.

You will receive an email from majordom with the following message:

subscribe rars-l Your request to Majordomo@rtpnet.org: subscribe rars-l YourAddress@something.com must be authenticated. To accomplish this, another request must be sent in with an authorization key, which has been sent to:

YourAddress@something.com If the message is not received, there is generally a problem with the address. Before reporting this as a problem, please note the following: You only need to give an address to the subscribe command if you want to receive list mail at a different address from where you sent the command. Otherwise you can simply omit it.

Then you will receive the following message:

Someone (possibly you) has requested that your email address be added to or deleted from the mailing list "rars-l@rtpnet.org". If you really want this action to be taken, please send the following commands (exactly as shown) back to "Majordomo@rtpnet.org":auth cdXXXXe9 subscribe rars-l YourAddress@something.com.

If you do not want this action to be taken, simply ignore this message and the request will be disregarded. If your mailer will not allow you to send the entire command as a single line, you may split it using backslashes, like so: auth cdXXXXe9 subscribe rars-l \ YourAddress@something.com.

2. Follow the directions in the second email and then the authentication process is completed by Woody Winsted, KJ4SO who checks the RARS membership roster for your name. Should there be any problem in subscription, Woody may email you directly.

Incentive Prize?

By Jeff, AC4ZO

So what's all this about the Hamfest Committee giving away an HT as an incentive? What kind of HT? What's an incentive? Can anybody win it?

See Prize page 7

You Might Be a Ham If....

Your idea of a cable conduit is the hall in your house.

You evaluate a car by how much ground plane it can provide.

Your favorite color is Heath Green.

Amateur Radio Electronics
Home of
Uncle Joe's Ham Shack
Uncle Joe offers: Coax, Ladder Line, Connectors, Wire, Rope, Ground Rods, And Other Antenna Items Available All Year Round
Call Uncle Joe anytime for Hamfest Prices

Garner, NC
779-5659

Joe Saah WB5ZPQ
wb5zpq@juno.com

W4TIM
Robert P. Buehlmann
Historian and collector
of
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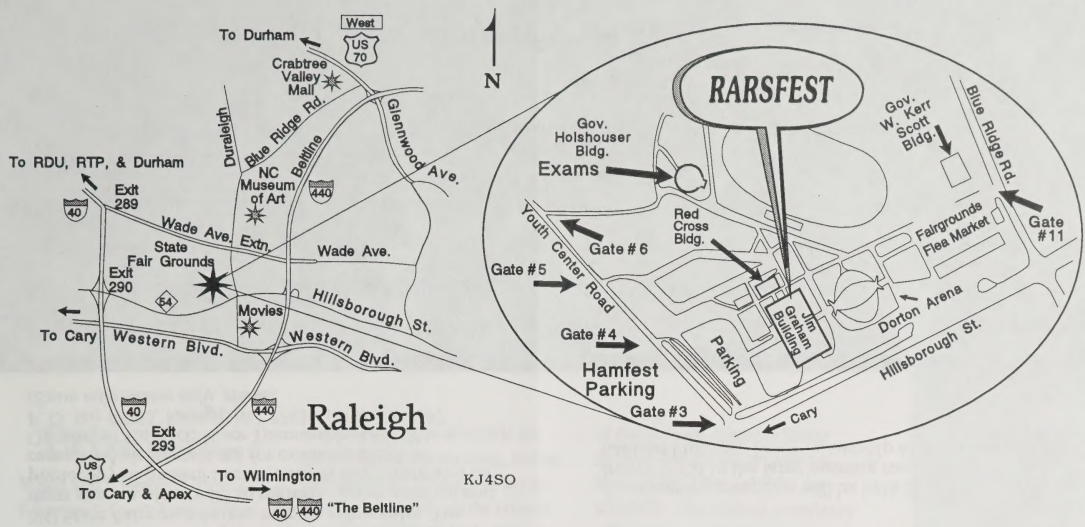

The Raleigh Amateur Radio Society welcomes you to RARSfest. **RARSfest is a non smoking event.** Note the special Hamfest parking area shown above. Please follow the traffic and parking instructions while on the grounds. **Parking is free!** If you desire full hookup or overnight camper/RV parking, contact NC State Fairgrounds Authorities upon arrival. A $15.00 per night fee will be collected on site by the NC State Fairgrounds Authorities.

RARSFest 98

ARRL State Convention

Hamfest & Computer Fair
Sunday April 5th, 1998
8:00 AM to 4:00 PM

All Indoors

Jim Graham Building
NC State Fairgrounds
Raleigh, North Carolina
$5.00 Pre-registeration
$6.00 At the door
Free Parking
Talk-In 146.64
Or 147.15

Raleigh Amateur Radio Society
P. O. Box 17124
Raleigh, North Carolina 27619

Bulk Rate
U.S. Postage
Paid
Permit No. 1978
Raleigh, NC

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Free Parking!

TALK IN
146.64
147.15

Special Interest Meetings

ARRL Forum with Roanoke Division staff, Army and Navy MARS, NTS, ARES, APRS, QRP forums, **and special guest Bill Moore, NC1L, ARRL Century Club Supervisor will present a DX forum and provide DXCC QSL card checking. Times will be announced at the Hamfest.**

Hamfest Contests

Cash Prizes: **Homebrew Contest, Mobile HF Installation Contest,** and get in on the fun of the **QLF & QBH Contests** where you compete to send the best and clearest CW with your **left foot** and **Both Hips**! *Call Rick Merkle, KA3PSK, (919) 870-8268 for contest details.*

Family Activities

Alternate activities available in the area include the Fairgrounds Flea Market, NC Museum of Art, and Blue Ridge Cinema. A short drive offers Crabtree Valley Mall. See map on other side for approximate locations.

Wouff Hong Induction

The Royal Order of the Wouff Hong will hold induction rites immediately after the RARSFest Social.

Amateur Radio Exams

Walk-in registration and testing begin promptly at 11:00 AM in the nearby Holshouser building on the NC State Fairgrounds (see map on other side). You must show a picture ID to register. Bring original and photocopy of present license and/or any certificates for completed elements. Cost for exam are $6.35.
Questions? Contact: *Vince Yakamavich, AA4MY, P. O. Box 97203, Raleigh, NC 27624 (919) 676-4697 (Exam information only, please).*

Hamfest Prizes

Pre-registration, hourly and major prizes drawn during the day. You need not be present to win pre-reg. or major prizes.

1st ICOM IC-706 MK II MF/HF/VHF Transceiver
2nd ICOM IC-207H 144/440 MHz Mobile Transceiver
3rd ICOM IC-T7A 144/440 MHz Handheld Transceiver
Pre-reg. Prize

Indoor Fleamarket

110,000 sq. ft. vehicle-accessible indoor (only) space! Regular fleamarket and vendor area space: one 8' table with 2 chairs is $10.00. Five or more tables are $9.00 each. 120-Volt AC power is $15.00 per connection (**bring your own extension cords**). Questions? Call *Wilbur Goss, WD4RDT, (919) 266-7883* for further information.

Dealer Space

Fully-equipped dealer booths are available in the designated dealer area at reasonable cost. For further information, contact *Chuck Littlewood, K4HF, 2005 Quail Ridge Rd., Raleigh, NC 27609 (919) 872-6555*

Additional Vendor Information

No food, drink or weapons may be sold or donated by attendees in the hamfest building at any time per NC State Fairground Regulations. Drive-in through the west door (adjacent to designated hamfest parking) and unload at your tables from 12:00 noon to 10:00 PM Saturday, and Sunday from 6:00 to 7:30 AM. **Fairgrounds regulations require that all vehicles exit the building by 7:30 am before the hamfest begins.** Please bring your own cart.

RARSfest Social

A welcoming reception will be held Saturday night from 7-9 PM in the large meeting room inside the hamfest building. Enjoy fellowship and refreshments.

Pre-registration Form (Must be received by March 28, 1998)

*Print clearly, **include S.A.S.E. or tickets will be held at the west door.** Make checks payable to "RARSfest"*

Name:_____ Call:_____

Address:_____

City:_____State:_____ Zip:_____

____Pre-registration tickets @ $5.00 ea $_____

____Tables 1-4 with 2 chairs @ $10.00 ea. $_____

____Tables 5 + @ $9.00 ea $_____

____120-Volt AC power @ $15.00/connection $_____

Total enclosed $_____

Mail to: **Wilbur Goss, WD4RDT, 4425 Watkins Road, Raleigh, NC 27616**

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When will it happen? How will it happen? Gosh, I ask a lot of questions!

Yep, ya sure do. Here's what's happening: We have been hearing for years now that it takes about 500 man-hours to put on the big show. That's 250 two-hour shifts. And in the past, we've been having trouble filling them all.

A couple of years ago, the Committee tried an idea to increase the number of volunteers signing up to help. They offered gifts to some of the lucky helpers. A drawing was held, kind of like a raffle, and a half-dozen or so gifts were awarded. The gifts proved not to be too enticing, and the mechanics of it all did not run smoothly. Well, we learned our lesson.

This year, I believe we have an enticing gift: An ICOM W2A 2 meter handy-talkie. Yep, brand new. In the box, and waiting to be given away at the April club meeting, just two days after the fest. No coupon, no claim check, but the real deal.

It works like this: For each two hour shift you work, you will have a ticket put in the barrel. You will not have to get the ticket and put it in there, it will be done for you. I will get a list of all the workers from the various committee chairpersons. Then, a list of all the tickets in the barrel will be available for inspection at the meeting, before the drawing. Check this list to make sure you have the correct number of tickets in the barrel. That's it.

Best of luck to all, and get yourself signed up!

Jeff—AC4ZO

RARSfest Social

Don't forget about the RARSfest Social the night before the Hamfest. The eating will begin about 7:00 PM on Saturday, April 4th. But before we all eat, we need your help! Please bring a dish to share with others. Any kind of appetizer, dessert, finger food etc. is most welcome. We've got a lot of people to feed so everyone's participation is greatly appreciated!

Fontella KE4IZZ is heading up the Social this year and would be happy to give you suggestions on what to bring. You can contact her at 662-1626.

MINUTES OF THE MEETING RALEIGH AMATEUR RADIO SOCIETY JANUARY BOARD MEETING

The regular monthly meeting of the Raleigh Amateur Radio Society was called to order on January 20, 1998, at 1950, by KE4FCJ. She wished everybody a Happy New Year, and announced that she would preside at this meeting because of the unavoidable absence of KN4AQ. Present for the meeting were KE4FCJ, KU4HM, K4HF, W4VFJ, KO4QH, KM4BU, W4VFJ, KC4UPX, and WD4RDT. The total attendance was 14.

On motion by W4VFJ, seconded by KM4BU, the minutes for the October Board meeting were approved.

WA4BPJ reported that there was no change in financial status since he reported at the January General Meeting: $14,725.27 in checking; $4160.96 in savings; and $13,238.00 in investment account. Current membership in RARS is 298. A question concerning the seed money for RARSFEST was raised, and WA4BPJ reported that there was approximately $4000 left in that money. According to WA4BPJ, these funds are not included in the regular treasurer's report.

Under new business,

(a) the requested agenda item concerning the use of the club's call signs was tabled until next month's meeting.

(b) The vice-President discussed the club relationships with the church where RARS meet-

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New Toys: GPS Receiver With Map

By KN4AQ, Gary Pearce

The recent holiday season brought its share of new toys to the KN4AQth. The one that's generated the most interest is my new GPS receiver, the Garmin GPS III. The amazing thing about this GPS unit is that it contains a map with an surprising amount of detail for North and South America. Another version is available with a map of Europe.

What's a GPS? The initials mean Global Positioning Satellite. The US has a series of satellites in orbit that provide extremely accurate positioning information. Over the past few years, receivers for this system have become commercially available and affordable. Most common GPS receivers are handheld, battery operated units that sell for between $200 and $500. More expensive units are available for specialty use in aviation and marine navigation.

What can it do? First, it tells you where you are -- the ultimate "You Are Here" machine. It provides your current location to an accuracy of a few hundred feet (the system can actually be accurate to within a few feet, or closer, but the military keeps that accuracy to themselves. Wouldn't want Saddam to drop a nuke too precisely, would we?). It uses latitude and longitude as its main points of reference, and it shows it to you on a small, LCD screen.

Next, you can mark the location of any place you pass, or any place you know the coordinates for, and store them as "waypoints." Then, you can measure the distance and direction between waypoints, or between where you are now and any waypoint you've stored. This is great for playing with repeaters. It's very enlightening to know exactly how far you are from a repeater as the signal starts getting noisy. You can use waypoints to build a "route" that guides you to your destination on a trip.

When you're moving, the GPS can tell you how fast you're going, and in which direction. Some of them give altitude information, but accuracy isn't very good. And it can store a "breadcrumb" trail of dots that shows where you've been for the past few hundred miles. With all that info, you can find your way to anyplace you've already been, or programmed in as a waypoint.

But the map is the feature that makes the device most useful and fun. The first handheld unit with a map, the Garmin GPS III, became available last fall. It sells for about $375. A comparable unit without a map is about $100 cheaper. The map shows all interstate and most US routes, and many state highways. In cities, it shows major roads. For example, in Raleigh, it shows Wade, Hillsboro, Western, Glenwood, Six-Forks, Falls-of-the-Neuse, Creedmore, South Saunders and many more roads, all identified by name. It gets a little sketchy in Cary -- Rt. 54 and 64 are there, but Kildare Farm Rd. is not shown. But after you drive around a while, the "breadcrumb" trail of dots shows the roads you drive on a lot, even if they're not on the map.

I've used it on the road for a cross-country trip to Kansas, and it was great to know just where I was out there in the wide-open spaces. And I've used it on some airplanes (I always ask the flight crew to check with the captain, and most of the time I get approval). It's very cool to know where you are, and see that speed indicator read 400 to 550 mph (some older GPS units only read out to 99 mph, so beware of used receivers). The altitude function is plus or minus a few hundred feet, plenty good enough for a good idea of how high you're flying.

Finally, the GPS has a data port that lets you upload and download waypoint information to some popular mapping programs on a PC. (No, you can't

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upload revisions to the GPS's internal map, but you can send the whole unit in for an update.) And you can connect it to a TNC and transmit position information to the packet APRS network.

I guess now I don't have any excuse if I get lost.

KN4AQ Gary Pearce

Dear RARS,

David & I would like to thank all of you for your prayers, thoughts, and kindness during my recent surgery. The warmth we received from our "family" at RARS made my recovery much easier. Thank you again for everything!

Always - Pat KE4FCJ

QSL from page 5

the club will do much of this for you. Just sort your cards by prefix, and drop them in the box at the sign-in table at the RARS meeting. Be sure to include your QST mailing label, or photocopy of your wallet card. The club will pay the fee and do the packing and shipping.

So, I've mentioned several times that the bureau is slow. Just how slow is it? Well, lessee... If you send 10 cards a month through the bureau, you could expect to see your first envelope arrive from the incoming bureau in about a year. They begin coming more regularly after the first one. The envelopes I receive now days has cards with dates as recent as last October, along with cards confirming QSOs that took place in 1993. It's too soon for me to tell what the success rate of cards sent via "BURO" will be, but it looks like it will be nearly 90%.

Here's a few more tips on direct QSLing to DX stations:

Put no reference to ham radio on either the envelope you are sending or your enclosed return envelope. Mail theft is a problem in many countries, and a call sign on the envelope is an invitation to trouble. If such a mail worker suspects there is anything of value (IRC, green stamp) in the envelope, he will just tear it open, take what he wants, and trash the card. I have received envelopes from DX stations with the corners clipped off. About 1 in 8 envelopes arrive this way. I am told that is from postal workers in foreign countries clipping off the corner and looking inside to see if there is anything of value. If they see anything, your card will never arrive.

Put your IRC or green stamp inside the return envelope and fold the envelope in two before putting it in the mailing envelope. When you put the return envelope in there, put the folded side in first so that a letter opener doesn't cut your return envelope in half. Done this way, the IRC or green stamp is not normally visible from clipped corners.

Do not use business size envelopes. Fold your return envelope (complete with IRC or green stamp) in two and stuff it along with the card into a letter envelope. Letter size envelopes get pilfered less than business size.

Use single sided cards. These are cards that have the report information on the same side of the card as your call sign, and nothing on the back. Double sided cards are fine for domestic use, but are more difficult to handle by bureau personnel. If you must use double sided cards, put the destination station's call sign in the address part of the card.

If there's one omission from this article, it's about finding QSL managers for DX stations that have them. There are several ways to do this. The Packet Cluster has a QSL manager data base so if you have a packet station, you can get manager information that way. CQ magazine has a list of QSL managers for active stations each month. There are numerous DX bulletins that you can subscribe to that provide QSL route information. But the best way for the casual DXer is just to make a list of the DX stations he wishes to QSL and ask an avid DXer for route information. Some would be more than willing to help.

I think that about covers it. For anyone interested, questions can be directed to me at 362-9456.

73., Jeff—AC4ZO

Minutes from page 7

ings are held. She asked that in the future any problems that arose concerning the meeting area be directed to her so that she could work them out with church officials.

(c) KE4OQO then asked on behalf of KD4YJV approval for the use of a club call sign for a public service event. However, since the agenda item on the use of call signs was tabled, by general consensus this was also tabled until that meeting.

(d) KE4OQO also asked the Board for an opinion on using non-club members to be Net Control on RARS nets, such as Traders' Net, and the RARS Two Meter Net. It was stated that we already are using nonmembers as net control stations, and the consensus was that there was no problem. He also asked if there was any club policy on this. Discussion of the question followed, and the general consensus was that there had been no policy written because we already use nonmembers to handle some nets. During the discussion KM4BU warned the Board to be careful what we "give away" because such "give aways" may grow out of hand.

(e) AC4ZO then announced that the current QSL Manager, AA4VK, wished to "step down" from this position. AC4ZO said that since we are a Special Service Club, and as such we are entitled to have a QSL Manager. This provides a person who can check WAS, and VUCC cards of persons seeking these awards and report their validity to ARRL. This avoids the problems that are associated with sending such cards to headquarters. He stated that the authority to check these cards must come from ARRL and does not extend to other awards. AC4ZO stated that the President would appoint and notify ARRL. K4HF then moved that AC4ZO be appointed to this position. The motion was seconded by KM4BU, and passed.

The Board then moved on to the Committee reports.

(a) The vice-President then proposed that the awards given at the Birthday Party should be formal and meaningful, and suggested that the humorous awards should be awarded at other times. She stated that she felt that these awards should reflect important accomplishments to ham radio and RARS. She requested that the members reflect on these awards and plan at February meeting.

(b) KC4UPX then reported on the repeater status. He pointed out that he had asked that DOT reopen the bidding process because the reported bids were less than we had planned for. The estimated range of the bids was $25,000 to $30,000 to move all three repeaters. DOT did reopen and the results were due today. He also reported that the antennas at the North Carolina Highway Patrol tower had been lowered from the requested 300 feet level to 200 feet. He said he found out that this was due to an untimely submission of frequencies, so he discussed this with appropriate authorities. He stated that most of them were located in Chicago and were somewhat difficult to get through to. He said that he and Jeff had prepared and sent a letter to the individual in Chicago. He stated that the intermod study was redone. He said that the individual stated that there was now no reason that the antennae could now be returned to the requested height. That change was approved the first week of January. He then turned to issue of the building. He stated that DOT would not pay for the building for us, he stated that DOT had paid Time-Warner for the building originally, so we have no claim on it. He said that we could place outside cabinets at the site. KC4UPX said that he began looking into that only to discover that appropriate cabinets would run about $3000 apiece. He then said that another option had arisen in that one of the tower management crews might allow us to co-locate in his building. He needs ground space — we have the ground space —

perhaps a deal can be worked out. He stated that the individual might want a monthly rental or some up-front money. KC4UPX then said that the new tower is up, and that the date to get off the old tower is now 2/15/98. The HP tower project was approved at 200 feet not 300 feet as requested. He further stated that Danny Hampton and Reed Whitten would meet towards the end of this week to discuss this. A question was raised by WA4BPJ about the use of 146.640 during RARSFEST. KC4UPX said that could be a problem. KE4FCJ then said that N4YTO had considered this possibility and that he had worked out a plan.

(c) It was stated that the List Server was up and running, but there was not further discussion of this.

(d) KE4FCJ then gave the Membership Services Committee report and said during her recovery, KF4SER would take over the meeting and greeting functions at the club meetings.

(e) KE4OQO then reported for KD4YJV that he had been coordinating with DFMA for joint coverage of the Special Olympics Basketball. This will be held towards the end of February.

(f) Education Committee report was made by KO4QH. She pointed out that this was a more difficult time to staff with teachers and students. She announced that CITY SEARCH was interested in announcing these classes. She also stated that she was in need of three replacement instructors. She said she needed instructors on propagation, safety, metric introduction, and setting up a hamshack. Dates for the classes are 2/23/98 - 4/2/98.

(g) On the Exciter, KM4BU reported that the firmness of submission of articles is caused by the use of bulk mailing. He warned the members about late submissions of articles and materials. He also pointed out that he was planning to change the layout to make it more attractive and readable.

(h) There were no further committee reports.

AC4ZO announced that he will present Ham information classes to seven different grade groups at the Apex school in February.

K4HF announced that the Richmond Frostfest was very successful and well attended. He also announced that he had learned that new hamfest in Morganton, NC, was causing some concern since it was schedule on Saturday the day before RARSFEST. He said that many of the vendors he had spoken to planned to come to RARSFEST rather than the Morganton one. He said that the Social was a popular part of the hamfest.

KO4QH announced that the Crystals would meet on 1/27/98 at the Golden Corral on Glenwood Avenue. The program would be a good bye to Ed and Karen Nisley.

KC4UPX requested an on-line copy of RARS membership. WA4BPJ will e-mail him a copy.

AC4ZO stated that the NAQP contest last weekend was very successful.

WA4BPJ announced that field day would be 6/27-28/98.

Motion to adjourn made by W4VFJ and seconded by WA4BPJ. The motion prevailed and the meeting was adjourned at 2105.

Respectfully submitted,
Carl S. King, KU4HM
Jeff Wittich, AC4ZO

Robert P. Holmes
ATTORNEY AT LAW

Motor Vehicle Negligence
& Workplace Injuries

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Calendar of Events
March 1998

March 3rd	**Regular RARS meeting**; Forest Hills Baptist Church, directions on page 2.
March 7th	**RARS Breakfast meeting**; Griffin's Restaurant, 10 AM Program: Informal gathering for eyeball QSOs. All Hams welcome. Info: Call Woody KJ4SO, 848-1844
March 7th	**Charlotte Hamfest**; Info: Call Alan Pitegoff, AB4OZ 787-1111
March 16th	**Scanner/Shortwave Listening SIG**; Info Bob KE4JVY, 481-9107
March 17th	**RARS Advisory Board meeting;** Forest Hill Baptist Church, 7:30 PM All RARS members welcome! Info-contact RARS officer. See page 2
March 23rd	**Crystals Meeting;** Golden Corral, Hwy 70 W, Info- Lynn KO4QH, 787-1111
March 28th	**Kinston Hamfest;** Info: Call Alan Pitegoff, AB4OZ, 787-1111

April 5th	**RALEIGH AMATEUR RADIO SOCIETY RARSfest; See poster inside for more information.**